

ABSTRACT OF THE DISCLOSURE

The invention relates to an optical transmission system having the structure of effectively suppressing variation in cumulative chromatic dispersion in an optical fiber transmission line from a transmitter to a receiver, thereby enabling large-capacity phototransmission. The optical transmission system according to the invention monitors variation of chromatic dispersion in the optical fiber transmission line and compensates for the variation of chromatic dispersion, thereby suppressing the variation of cumulative chromatic dispersion on the whole of the optical fiber transmission line. The variation of chromatic dispersion is calculated by monitoring temperature variation of the optical fiber transmission line or by letting monitor light propagate in a dummy fiber transmission line disposed in parallel to the optical fiber transmission line. On the other hand, the compensation for the variation of chromatic dispersion is implemented by shifting the wavelength of the signal from the transmitter to the longer wavelength side or to the shorter wavelength side or by use of a dispersion compensator such as a dispersion compensating optical fiber or the like.